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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,276	10/27/2003	William E. M. Jones	26424A USA	2789

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EXAMINER	
ECHELMEYER, ALIX ELIZABETH	
ART UNIT	**PAPER NUMBER**
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/694,276	JONES, WILLIAM E. M.	
	Examiner	Art Unit	
	Alix Elizabeth Echelmeyer	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,11-14,32 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,11-14,32 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response

1. This Office Action is in response to the arguments filed December 1, 2008. No claims have been amended. Claims 9, 10, 15-31 and 33 were previously cancelled. Claims 1-8, 11-14, 32 and 34 are pending and are rejected finally for the reasons given below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-8, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 5,841,355) in view of Datillo (US 4,978,592).

Bae et al. teach an electrolyte level sensing method for use with a wet battery with automatic means for refilling electrolyte (abstract). The sensor sends feedback concerning the electrolyte level to a microprocessor, and when the electrolyte is below a predetermined level, the microprocessor injects distilled water into the cells (column 2 lines 7-16).

Solenoid valves are used to control water flow in the conduit (column 3 lines 54-58, 64-66).

As for claims 2, 3 and 34, each cell in the system has a sensor and valve (Figure 4; column 3 lines 58-60).

With regard to claims 4 and 5, the microprocessor controls the solenoid valves that control water flow in the conduit (Figure 4 ref. (18); column 3 lines 54-58, 64-66).

As for claims 6-8, Bae et al. teach a water injector having a wire-controlled coupler (Figure 3; column 2 line 64 - column 3 line 11). The wire couple acts as the biasing member, and since it is connected through a wire to the microprocessor, the microprocessor would have information on whether the injector was coupled or not.

Regarding claim 32, since Bae et al. teach all of the components discussed above (not including the claimed electrolyte level sensor, see below), and a method for sensing the electrolyte level, one of ordinary skill in the art would recognize that a method of filling the electrolyte is inherently taught.

The electrolyte level sensor of Bae et al. operates by sensing the concentration of the electrolyte (column 1 lines 9-14) instead of measuring the level based on the top surface of the electrolyte.

Datillo teaches a sensor probe for emersion into the electrolyte of a wet lead acid battery cell. The probe measures the level of electrolyte to ensure that the electrolyte covers the battery plates, and is connected to an electrical circuit (abstract; column 2 lines 40-42; column 9 lines 2-6).

It would be desirable to use the sensor of Datillo in a lead acid battery having the automatic filling system of Bae et al. instead of the concentration sensor of Bae et al. to ensure that the battery plates are covered; the sensor of Bae et al. may fail to ensure that the plates are covered, since it measures concentration but not physical level.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sensor of Datillo in a lead acid battery having the automatic filling system of Bae et al. instead of the concentration sensor of Bae et al. to ensure that the battery plates are covered.

4. Claims 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. in view of Datillo as applied to claim 1 above, and further in view of Parise (US 6,653,002) and Gutlich et al. (US Patent 4,283,467).

The teachings of Bae et al. and Datillo as discussed above are incorporated herein.

Bae et al. in view of Datillo fail to teach charging sensors or an air pump.

Parise teaches a charging sensor to monitor voltage levels within each cell (column 7 line 54 - column 8 line 22). Such a sensor would be capable of determining whether the battery was being charged, since it could determine whether the amount of charge had increased or decreased as a function of time.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a charge sensor such as the sensor of Parise in the battery

of Bae et al. in view of Datillo since it would allow the microprocessor to determine the state of charge or whether the battery was charging.

Bae et al. in view of Datillo and Parise fail to teach an air pump.

Gutlich et al. teach a battery that includes transport tubes immersed in the electrolyte and connected to compressed air ducts. The air is mixed with the electrolyte to promote circulation (abstract).

Gutlich et al. further teach that mixing yields improved capacity and useful life for the battery (abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mix the electrolyte of the battery of Bae et al. in view of Datillo and Parise using air as taught by Gutlich et al. in order to improve the capacity and useful life of the battery.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. in view of Datillo, Parise and Gutlich et al. as applied to claim 11 above, and further in view of Saaski et al. (S 6,265,100).

The teachings of Bae et al., Datillo, Parise and Gutlich et al. as discussed above are incorporated herein.

Bae et al. in view of Datillo, Parise and Gutlich et al. fail to teach a Hall Effect charging sensor.

Saaski et al. teach a charging sensor for use in a battery that may also be used as a switch to turn off or on the charging function. The sensor/switch is a Hall Effect device (column 8 lines 31-38).

It would have been obvious to use the Hall Effect sensor of Saaski et al. in the battery of Bae et al. in view of Datillo, Parise and Gutlich et al. since it is effective both as a sensor and a switch.

Response to Arguments

6. Applicant's arguments filed December 1, 2008 have been fully considered but they are not persuasive.

Beginning on page 9, Applicant argues that the claims require a water conduit and electronic controller that are attached to a battery, and that this means that those objects are required to be part of "a single, complete electric battery unit." In other words, according to Applicant, “attached” means “integral.” The examiner disagrees.

Continuing on page 9, in Applicant’s comments relating to the independent claims 1, 32 and 34, it is Applicant’s opinion that the water conduit and controller as claimed are part of this "single and complete battery unit" while the same objects, in Bae et al., "are entirely external to the battery itself."

The examiner holds that the claim interpretation used in the rejection gives the claims their broadest reasonable interpretation, with the words given their plain meaning

and without importing limitations from the specification that are not included in the claims, as is required by the MPEP (2111, 2111.01 I and II).

The claims as filed do not require that all of the parts are integrated, as Applicant alleges, or that all of the parts are included in a "single, complete electric battery unit". The claims only require that the water conduit and electronic controller are *attached* to said battery. When the water providing system of Bae et al. is being used to provide water to the battery, the water conduit and electronic controller are attached to the battery, since the water conduit must be attached in order to provide water and the electronic controller must be attached to receive signals from the battery regarding the water level.

As for claims 6-8, these limitations are taught by Bae et al., as is described in the above rejection. Applicant alleges that Bae et al. do not teach a latch for attaching the water tank to the battery. Applicant is directed to Bae et al. at Figure 3 and column 2 line 64 - column 3 line 11.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is (571)272-1101. The examiner can normally be reached on Mon-Fri 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

Alix Elizabeth Echelmeyer
Examiner
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aee